System 5 IP Series

Five Input A/V Switchers with IP Link® Ethernet Control

COMMON FEATURES

- **Video inputs: two inputs configurable for composite video, S-video, or RGBHV on female BNC connectors; two inputs configurable for composite video or S-video on female BNC and 4-pin mini DIN connectors; RGBHV on front panel female 15-pin HD connector**
- **Audio inputs: balanced/unbalanced audio on captive screw connectors; stereo audio on front panel female 3.5 mm stereo mini jack**
- **Video outputs: RGBHV, RGBS, RGsB, RsGsBs, S-video, and composite video on female BNC connectors**
- **Audio outputs: balanced/unbalanced audio on captive screw connectors; amplified stereo audio on insulated screw terminals**
- **350 MHz (-3 dB) RGB video bandwidth** — Maintains signal integrity.
- **Universal display control via RS-232 or IR** — Provides compatibility with virtually any controllable display device.
- **Four IR/Serial control ports**
- **Digital Input Monitoring Port**
- **Pre-configured drivers**
- **Six configurable relays for room control** — The System 5 IP is equipped with six internal relays to control lighting, screen settings, and other device functions. The relays may be controlled through the front panel, IR 402 remote, SCP control panel, or RS-232.
- **Remote IR learning capabilities for DVD, VCR, and projector control** — The System 5 IP is capable of performing IR learning which enables it to control various source devices when using optional IRCMs Infrared Control Modules such as the IRCM-DV+.
- **RS-232 serial control port** — Using serial commands, the System 5 IP can be controlled and configured via the Extron Windows®-based control program, or integrated into third-party control systems. Extron products use the SIS™ - Simple Instruction Set command protocol, a set of basic ASCII code commands that allow for quick and easy programming.
- **Supports all IR and RS-232 preconfigured IP Link drivers**
- **IP Link® Ethernet monitoring and control** — An IP integration technology developed by Extron specifically engineered to meet the needs of professional A/V environments that enables the System 5 IP to be controlled and proactively monitored over a LAN, WAN, or the Internet.
- **7.25 MB flash memory** — The System 5 IP's built-in Web server features 7.25 MB of flash memory for storing the GlobalViewer® management application and any user customized Web pages.
- **Remote control capabilities with optional IR 402 remote and SCP 104 and SCP 226 Secondary Control Panels**
- **Fixed and variable preamp line level audio outputs**
- **Stereo or dual mono audio output - selectable**
- **Triple-Action Switching™ for RGB delay** — Blanks the screen during switching of RGB signals to eliminate visible switching transitions.
- **Integrated inactivity timer turns off projector after user-defined time**
- **Tri-colored, backlit buttons**
- **Optional CFG configuration cable available for loading drivers, configuring audio input levels, and video selection type**
- **1U, full rack width metal enclosure** — The System 5 IP can be easily mounted into any rack or podium with included mounting brackets.
- **Internal international power supply** — The 100-240VAC, 50/60 Hz, universal power supply provides worldwide power compatibility.

DESCRIPTION

The **Extron System 5 IP** is a five input, one output integrated A/V active switcher that provides an all-in-one, affordable solution for single projector A/V installations in classrooms, boardrooms, conference rooms, and multimedia environments. It includes such features as configurable inputs, easy-to-use IR learning, customized display control via RS-232, relays for room control, an integrated 40-watt, rms, audio amplifier, and IP Link® Ethernet monitoring and control.

Universal Projector Control

The System 5 IP offers two methods of projector control: RS-232 or IR. The switcher can learn IR signals from remote controls. This enables the switcher to communicate with the display and sources such as VCRs and DVD players. IR learning makes setup and operation simple and customizable. Virtually any RS-232 controllable projector or display device can be used with the System 5 IP. Extron creates and administers a wide selection of commonly used projector control drivers that enable the System 5 IP to control basic projector functions such as power and input selection. Users can create their own drivers or go to the Extron Web site to download RS-232 drivers configured for the latest and most popular projectors. In addition, a custom configuration mode is available to allow for user-defined IR or RS-232 commands.

Room Control

The System 5 IP also offers room control capability, so room lighting, screen settings, and other device functions may be controlled through the switcher's six internal relays. In addition, a digital input monitoring port is provided, allowing for enhanced monitoring via sensors and switches, or streamlined automation of triggering events, or other functions. By providing projector control, room control, universal compatibility with displays, and system audio capabilities, the System 5 IP consolidates functions that would typically require up to six different products into one integrated solution.

Fixed and Variable Preamp Line Level Outputs

The System 5 IP provides fixed and variable line level audio outputs on captive screw connectors for use with an external amplifier or self-powered speakers. Fixed audio outputs are especially effective when used with external mixers, amplifiers, and assistive listening devices. Variable audio outputs enable the audio signal levels to be adjusted using the switcher's volume control.

Integrated Stereo Audio Amplifier

The System 5 IP is available with or without an internal 40-watt audio amplifier, 2 x 20 watts rms, to drive 4 or 8 ohm speakers. The unit can also be set for dual mono mode where it sums the left and right input signals together and drives the same mono signal to both the left and right outputs.

IP Link® Ethernet Control

The System 5 IP is equipped with Extron's IP Link®, an IP integration technology specifically engineered to meet the needs of professional A/V environments — from small K-12 classrooms to large universities and businesses. IP Link provides these advantages:

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Extron®

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System 5 IP Series

DESCRIPTION (CONTINUED)

- **Global compatibility** — All IP Link products use industry standard Ethernet communication protocols, including ARP, DHCP, ICMP (ping), TCP/IP, Telnet, HTTP, and SMTP.
- **High performance architecture** — Web pages are served many times faster, 6 Mbit/sec transfer rate, than similar products.
- **Multi-user support** — Multiple, simultaneous connections enable each IP Link device to support many concurrent users and improve system throughput by sending information in parallel.
- **Asset Management** — The System 5 IP offers Web-based asset management capabilities, specifically designed to work with products that include IP Link technology. This includes proactive maintenance, event scheduling, remote technical support, and theft alerts.

IR 402

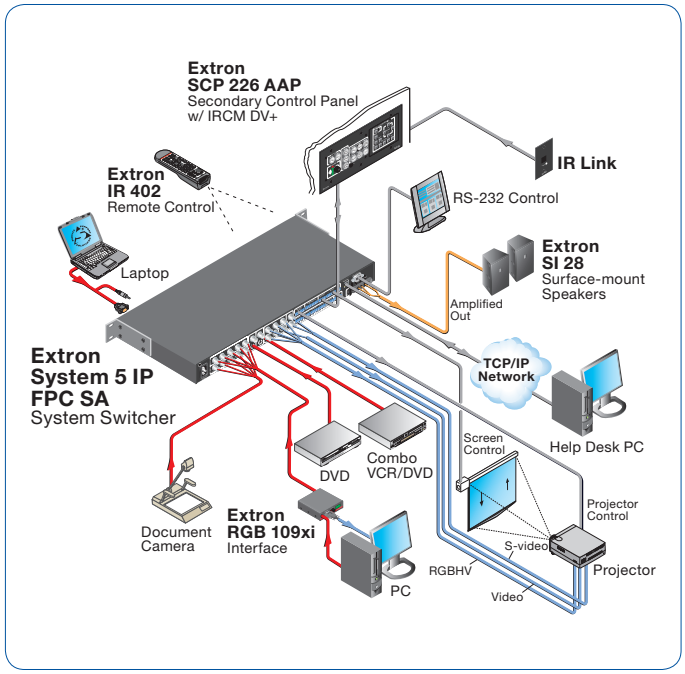
SCP 104

SCP 226

Control Options

System switcher control is provided via the front panel backlit buttons, the optional IR 402 remote control, or optional SCP 104 and SCP 226 Secondary Control Panels. The front panel backlit input buttons of the System 5 IP can be individually labeled to ensure precise identification of video and audio input settings. In addition, the front panel includes buttons for display functions such as power, mute, video modes, and room controls — such as lowering or raising a display screen, or powering lights on or off. As a simplified and cost-effective option, the System 5 IP is also offered without front panel controls, but still provides the front panel 15-pin HD input connector for RGBHV.

The optional IR 402 remote, SCP 104, and SCP 226 Secondary Control Panels both duplicate the System 5 IP's front panel functions and enable users to remotely control the switching, projector, and room functions of the switcher. The SCP 104 and SCP 226 AAP models include an opening that will accommodate up to four single space AAP - Architectural Adapter Plates. There are hundreds of AAPs to choose from, some of which offer pass-through connections, as well as IR control options. Either control panel can be mounted in a wall, podium, or table, and is available in gray, black, or white to blend in with the environment.



System 5 IP FPC SA

Switcher with Stereo Amplifier and Front Panel Controls

UNIQUE FEATURES

- **Integrated stereo amplifier provides 40 watts, 2 x 20 watts rms, into 4 or 8 ohm speakers** — Outputs amplified stereo audio on insulated screw terminals.
- **Text and icon button labels included for easy identification of button features**

MODEL	VERSION DESCRIPTION	PART #
System 5 IP FPC SA	Switcher w/ Front Panel Control & Amp	60-397-81

System 5 IP FPC

Switcher with Variable Preamp Audio Output and Front Panel Controls

UNIQUE FEATURES

- **Variable preamp audio output - no amplifier**
- **Text and icon button labels included for easy identification of button features**

MODEL	VERSION DESCRIPTION	PART #
System 5 IP FPC	Switcher w/ Front Panel Control	60-397-83

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System 5 IP Series

System 5 IP Series Accessories

INCLUDED ACCESSORIES	MODEL DESCRIPTION	PAGE	PART #
NETXC M-M	Male to Male RJ-45 Network Crossover Cable, 6' (1.8 m)	page 797	26-591-01
MBD 149	1U, Full Rack Width, Rack Mount and Through-Desk Kit for Four-Piece Enclosure	page 817	70-077-03

OPTIONAL ACCESSORIES	MODEL DESCRIPTION	PAGE	PART #
SCP 104	Secondary Control Panel for MLC 104 IP Plus and System 5 IP	page 273	60-672-02
SCP 226	Secondary Control Panel for MLC 226 IP and System 5 IP	page 400	60-671-02
IRCM-DV+	Dual-Function DVD and VCR IR Control Module	page 393	70-220-02
IR 402	Handheld IR Remote Control for System 5 IP and MLC 226 IP	page 415	70-207-01
IR Emitter and Shield Kit	IR Emitter Kits	page 281	70-283-01
IR Emitter and Shield - Dual Kit	IR Emitter Kits	page 281	70-283-02
IR Link	Wall-Mountable IR Signal Repeater	page 281	60-404-02
CFG Cable	9-pin D Female to 2.5 mm TRS Configuration Cable	page 282	70-335-01
UC50' (50' / 15 m)	Female 9-pin D Connector to Unterminated - Captive Screw Ready	n/a	26-518-01
MLSC 406/506/5IP-35'	One Pre-terminated SY VGA and Composite Video Cable, and One S-Video Adapter Cable - Plenum	page 444	42-097-35
System 5 IP Labels	I/O Descriptor Labels	n/a	33-953-02

SPECIFICATIONS

VIDEO

Gain ... Unity
Bandwidth ... 350 MHz (-3 dB), fully loaded

VIDEO INPUT

Number/signal type ... 1 RGBHV, RGBS, RGsB, RsGsBs
2 RGBHV, RGBS, RGsB, RsGsBs, S-video, or composite video
2 S-video or composite video
Connectors ... (1) 15-pin HD female (RGB)
2 x 5 female BNCs (RGB, S-video, or composite video)
2 x 1 female BNC (composite video) and (1) 4-pin mini DIN (S-video)
Impedance ... 75 ohms
Horizontal frequency ... 15 kHz to 145 kHz
Vertical frequency ... 30 Hz to 170 Hz

VIDEO OUTPUT

Number/signal type ... 1 RGBHV, RGBS, RGsB, RsGsBs
1 S-video
1 composite video
Connectors ... 5 female BNCs (RGB)
2 female BNCs (S-video)
1 female BNC (composite video)
Nominal level ... 1 Vp-p for Y of S-video, and for composite video
0.7 Vp-p for RGB
0.3 Vp-p for C of S-video
Minimum / Maximum levels
RGB ... Analog: 0.3 V to 1.5 Vp-p (follows input)
S-video, composite video ... Analog: 0.4 V to 2.0 Vp-p (follows input)
Impedance ... 75 ohms
Return loss ... <-40 dB @ 5 MHz
DC offset ... ±5 mV with input at 0 offset
Switching type ... Triple-Action™ (RGB delay)

SYNC

Input type ... RGBHV, RGBS, RGsB, RsGsBs
Output type ... RGBHV, RGBS, RGsB, RsGsBs (follows input)
Input level ... 2.0 V to 5.0 Vp-p
Output level ... 5.0 Vp-p, unterminated
Input impedance ... 10k ohms
Output impedance ... 75 ohms
Max. propagation delay ... 30 ns
Max. Rise/fall time ... 4 ns

AUDIO

Gain
Lineout ... Unbalanced output: 0 dB; balanced output: +6 dB
Preamp ... Unbalanced output: -6 dB; balanced output: 0 dB at max. volume
Frequency response, amplifier models
Power amp (4 or 8 ohm) ... 20 Hz to 20 kHz, 0 dB to -1.5 dB @ 1 watt output
Lineout/preamp ... 20 Hz to 20 kHz, 0 dB to -0.5 dB
Frequency response, non amplifier models
Lineout/preamp ... 20 Hz to 20 kHz, 0 dB to -0.5 dB
THD + Noise ... <0.15% @ 1 kHz at max. power output
S/N at max. power output or line level output, unweighted
Power amp (amplifier models only) ... >80 dB at 10 Hz to 22 kHz
Preamp ... >-100 dB at 20 Hz to 20 kHz
Lineout ... >-110 dB at 10 Hz to 22 kHz
Crosstalk ... <-80 dB @ 1 kHz, fully loaded
CMRR ... >80 dB @ 20 Hz to 200 Hz, >60 dB @ 20 Hz to 20 kHz

AUDIO INPUT

Number / Signal type ... 4 stereo or mono, balanced/unbalanced (inputs 1-4)
1 stereo or mono, unbalanced (input 5)
Connectors ... (4) 3.5 mm captive screw connectors, 5 pole (inputs 1-4)
(1) 3.5 mm mini audio jack (tip, ring, sleeve) (input 5)
Impedance ... >10k ohms unbalanced
Nominal level ... -10 dBV (316 mVrms)
Input gain adjustment ... -40 dB to +30 dB, adjustable per input

AUDIO OUTPUT — LINE LEVEL

Number / Signal type ... 2 stereo or mono, balanced/unbalanced (1 fixed and 1 variable)
Connectors ... (2) 3.5mm captive screw connectors, 5 pole
Impedance ... 50 ohms unbalanced, 100 ohms balanced
Nominal level ... -10 dBV (316 mV) or +4 dBu (1.23 V) (configurable)

AUDIO OUTPUT — POWER AMPLIFIER (AMPLIFIER MODELS ONLY)

Number / Signal type ... 1 stereo or mono
Connector ... (1) 4 position screw terminal
Sensitivity ... -22 dBV (80 mVrms, -19.8 dBu) for max. power output (adjustable)
Power bandwidth at rated maximum power output
4 ohm output ... 10 Hz to 20 kHz, 0.5% THD
8 ohm output ... 20 Hz to 20 kHz, 0.8% THD
Drive / Full power out ... 40 watts; 20 watts (rms) per channel, 4 or 8 ohm load
Protection ... Input limiting, thermal, short circuit

CONTROL / REMOTE — SWITCHER

Serial control port ... 2 RS-232: 1 rear panel 9-pin female D connector,
1 front panel 2.5 mm stereo mini jack
Ethernet control port ... 1 RJ-45 female
Ethernet data rate ... 10/100Base-T, half/full duplex with autodetect
Ethernet protocol ... ARP, DHCP, ICMP (ping), TCP/IP, Telnet, HTTP, SMTP
Web server ... 7.25 MB nonvolatile user memory

CONTROL — RELAY

Number / Type ... 6 momentary or latching (configurable via software)
Connectors ... (3) 3.5 mm captive screw connectors, 3 pole
Contact rating ... 24 V, 1A

CONTROL — PROJECTOR

Projector control port
(RS-232) ... (1) 3.5 mm captive screw connector, 3-pole

CONTROL — PERIPHERAL EQUIPMENT

IR / Serial control ports ... (4) 3.5 mm captive screw connectors, 2-pole
Programmable: RS-232 (±5 V), or TTL level (0 to 5 V) infrared up to 1 MHz

GENERAL

Power ... 100 VAC to 240 VAC, 50/60 Hz, 50 watts, internal, universal
Temperature / Humidity ... Storage -40° to +158°F (-40° to +70°C) / 10% to 90%, noncondensing
Operating +32° to +122°F (0° to +50°C) / 10% to 90%, noncondensing
Rack mount ... Yes, with included brackets
Enclosure type ... Metal
Enclosure dimensions ... 1.75" H x 17.5" W x 9.4" D (1U high, full rack wide)
4.4 cm H x 44.4 cm W x 23.9 cm D
Product weight ... 6.0 lbs (2.7 kg)
Shipping weight ... 11 lbs (5 kg)
DIM weight
USA / Canada ... 10 lbs (5 kg)
International ... 11 lbs (5 kg)
Vibration ... ISTA 1A in carton (International Safe Transit Association)
Listings ... UL, CUL
Compliances ... CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF ... 30,000 hours
Warranty ... 3 years parts and labor

NOTE: All nominal levels are at ±10%. Specifications are subject to change without notice.

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